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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,613	07/25/2001	Woo-Suk Chung	6192.0221.AA	3461
7590	02/27/2004		EXAMINER	
McGuireWoods LLP 1750 Tysons Blvd Suite 1800 McLean, VA 22102			SEFER, AHMED N	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/911,613	CHUNG ET AL.
	Examiner	Art Unit
	A. Sefer	2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 November 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1 and 4-8 is/are allowed.
- 6) Claim(s) 9,10 and 13-15 is/are rejected.
- 7) Claim(s) 11 and 12 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on November 25, 2003 has been entered; no new claims have been added.

### ***Response to Arguments***

2. Applicant's arguments, see page 8 of the amendment, filed 11/25/2003, with respect to the rejection(s) of claim(s) 1-15 under 35 U.S.C. 103(a) over Seo USPN 6,323,521 in view of Masutani et al. USPN 6,291,136 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shimomaki et al. USPN 6,678,017.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Shimomaki et al.

USPN 6,678,017.

Shimomaki et al disclose in fig. 9 a thin film transistor liquid crystal device (TFT LCD), comprising: a substrate; a thin film transistor formed on said substrate, having a source electrode 55/56 and a drain electrode 55/56, wherein the drain electrode is formed of Cr (55); an insulating layer 41 formed over said thin film transistor is formed, and having a contact hole 61 exposing a portion of the drain electrode; and a pixel electrode 7/57 provided corresponding to the thin film transistor, formed on said insulating layer and connected to the drain electrode through the contact hole, wherein said pixel electrode is a multi-layered comprising a lower layer 57 formed of the same material as the drain electrode.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomaki et al. in view Tanaka et al USPN 6,408,842.

Shimomaki et al disclose the device structure as recited in the claim, but do not specifically disclose an electrode comprising an upper metal layer containing Al.

Tanaka et al disclose in fig.2 a thin film transistor liquid crystal device (TFT LCD) including a pixel electrode 12 comprising an upper metal layer 14 containing Al.

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Therefore, it would have been obvious to one skilled in the art at the time the invention was made to substitute the ITO layer of Shimomaki et al. with an aluminum layer since that would prevent the occurrence of galvanic corrosion as taught by Tanaka et al.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomaki et al. in view Ohtani et al. USPN 6,620,660.

Shimomaki et al. disclose the device structure as recited in the claim, but do not disclose a photo-sensitive organic insulating layer.

Ohtani et al disclose (see figs. 11B and 12A-12B, col. 4, lines 42-50 and col. 14, lines 17-32) a thin film transistor liquid crystal device (TFT LCD) including a photo-sensitive organic insulating layer 1201/1211.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Ohtani et al since that would provide a leveled upper surface.

As for claim 13, Ohtani et al disclose a top gate type polysilicon thin film transistor.

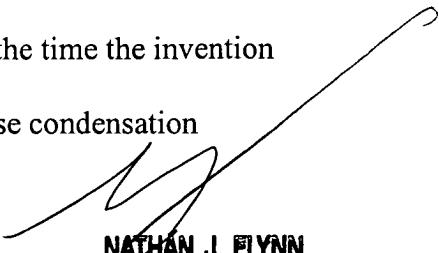
8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomaki et al in view of Hirabayashi USPN 6,358,759.

Shimomaki et al fail to disclose projections that work as micro lens formed on an upper surface of an insulating layer.

Hirabayashi discloses (see col. 21, lines 62-67) projections that work as micro lens formed on an upper surface of an insulating layer.

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Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Hirabayashi's teachings since that would increase condensation efficiency of an incident light resulting an LCD with a bright image.



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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

***Allowable Subject Matter***

9. Claims 1, 4-8 are allowed.
10. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (703) 605-1227.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601.

ANS  
January 28, 2004